Gulf of Mexico Harmful Algal Bloom Bulletin

Region: Texas

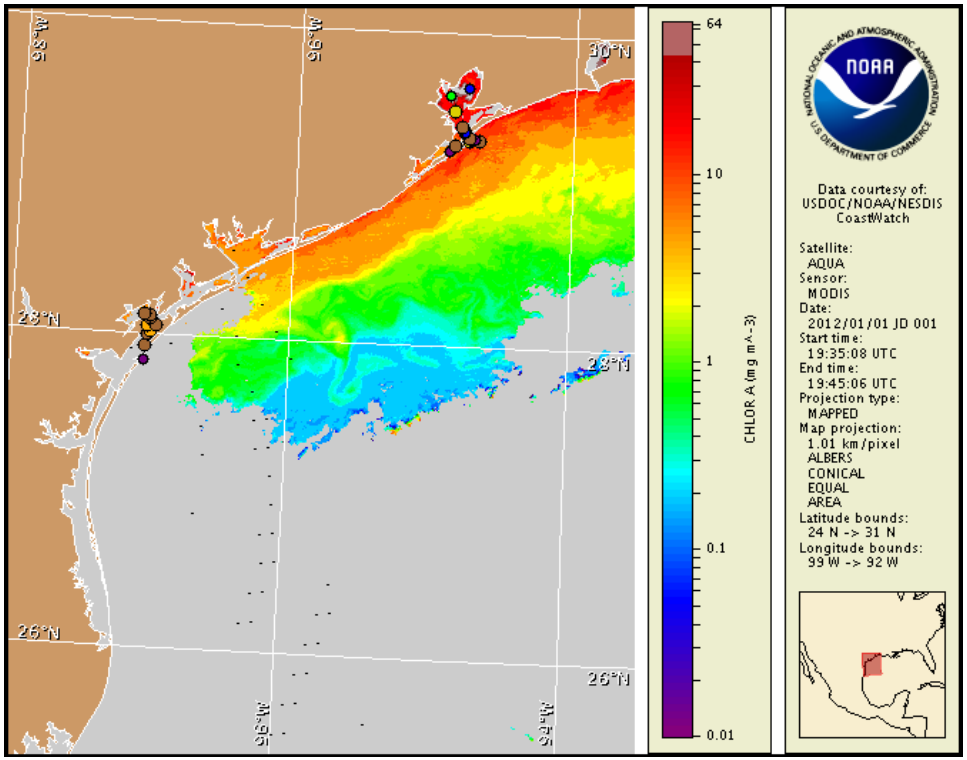
Tuesday, 03 January 2012

NOAA Ocean Service

NOAA Satellite and Information Service

NOAA National Weather Service

Last bulletin: Thursday, December 29, 2011



Satellite chlorophyll image with possible HAB areas shown by red polygon(s). Cell concentration sampling data from December 24 to January 3 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide:

http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

To see previous bulletins and forecasts for other Harmful Algal Bloom Bulletin regions, visit the NOAA Harmful Algal Bloom Operational Forecast System bulletin archive: http://tidesandcurrents.noaa.gov/hab/bulletins.html

Conditions Report

A harmful algal bloom is present along the Texas coast in the Galveston/Freeport area, within the Matagorda Bay area, in the Port Aransas/Aransas Bay area and within Corpus Christi Bay, alongshore Padre Island National Seashore and the South Padre Island region, and within the lower Laguna Madre. Patchy moderate impacts are possible today through Wednesday in the Galveston Bay and Port Aransas/Corpus Christi Bay areas. Water samples last identified harmful algal blooms in the Matagorda Bay area on December 14, alongshore the Padre Island National Seashore region on November 28, alongshore South Padre Island on December 20, within the Lower Laguna Madre and Brazos Santiago Pass on December 22, and within the Brownsville Ship Channel on December 2. Associated respiratory impacts remain possible in these areas. No additional impacts are expected at the coast in Texas today through Wednesday, January 4. All Texas bays and coastal waters remain closed to commercial and recreational oyster harvesting due to blooms of the harmful algae Karenia brevis (red tide).

Analysis

A harmful algal bloom continues along much of the Texas coastline.

In the Galveston region, samples collected indicate *Karenia brevis* concentrations have decreased, ranging between 'not present' and 'low b' (12/27-28; TPWD). In the Bolivar Roads Pass area, several samples collected indicate *K. brevis* remains between 'very low a' and 'low b' concentrations (12/27-28; TPWD). In West Bay, samples indicate *K. brevis* concentrations decreased to a range between 'very low a' and 'low a' (12/27; TPWD). Samples collected within Galveston Bay from Houston Ship Channel Markers #25, 35, 47, and 55 indicate *K. brevis* concentrations range between 'very low b' and 'low b', while sampling indicates that *K. brevis* is 'not present' in upper Galveston Bay (12/27-28; TPWD). 'Very low b' concentrations of *K. brevis* were identified from the center of Trinity Bay (12/28; TPWD). No new samples have been received from the Matagorda Bay region, where the most recent samples identified 'not present' to 'high' concentrations (12/5-14; TPWD).

No new samples have been received from the Port Aransas region, where the most recent samples identified 'low a' to 'medium' from Aransas and Copano bays (12/27; TPWD).

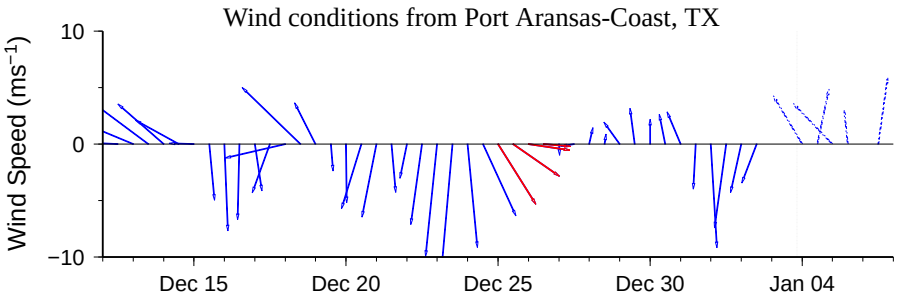
No samples have been received from alongshore Padre Island National Seashore since 'medium' to 'high' *K. brevis* concentrations were identified on 11/28 (TPWD). No new samples have been received from alongshore South Padre Island or within the lower Laguna Madre, where the most recent samples indicated 'very low b' to 'medium' *K. brevis* concentrations (12/19-22; TPWD). The most recent sample collected within the Brownsville Ship Channel at the San Martin boat ramp indicated that *K. brevis* is not present (12/20; TPWD).

Recent MODIS imagery (1/1; page 1) is obscured by clouds along the Texas coastline from Pass Cavallo to south of the Rio Grande, limiting analysis. A band of high to very high chlorophyll (10 to >20 μg/L) is visible stretching along- and offshore from Sabine Pass to San Luis Pass, with elevated chlorophyll (2 to <10 μg/L) visible along- and offshore from San Luis Pass to Pass Cavallo. Elevated chlorophyll at the coast may contain *K. brevis*, but could also be due to the continued resuspension of benthic chlorophyll and

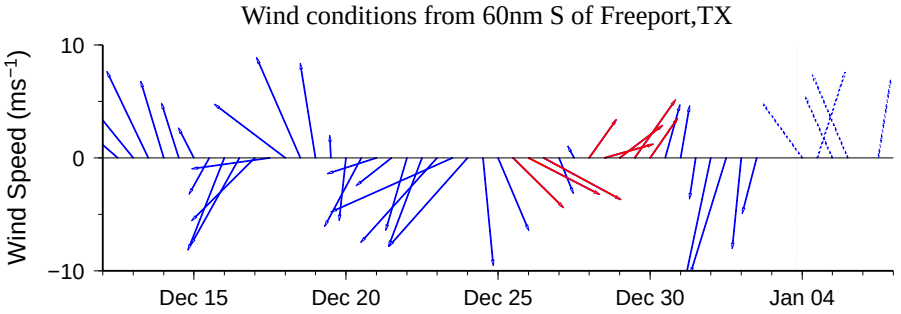
sediments, making it difficult to determine the extent of blooms from satellite imagery alone.

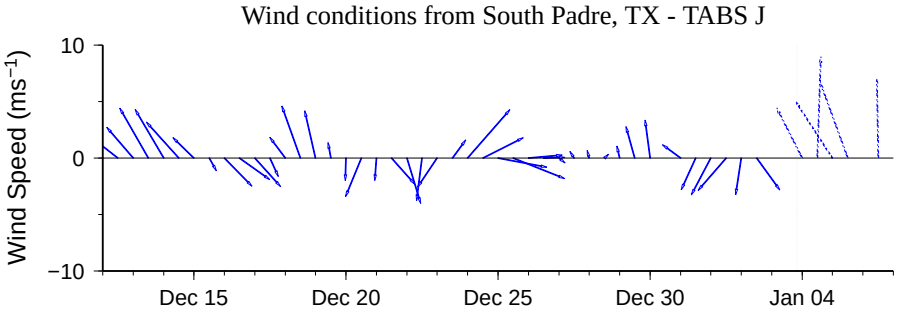
Forecast models based on predicted near-surface currents indicate a maximum bloom transport from coastal sample locations of <10km south (negligible) from the Galveston Bay region, 30km south from both the Matagorda Peninsula and Port Aransas regions, 10km south along the Padre Island National Seashore region, and 15km south from Brazos Santiago Pass from January 1 to 6. Forecasted onshore winds will increase the potential for impacts along the Texas coast today through Wednesday.

Kavanaugh, Derner



Wind speed and direction are averaged over 12 hours from buoy measurements. Length of line indicates speed; angle indicates direction. Red indicates that the wind direction favors upwelling near the coast. Values to the left of the dotted vertical line are measured values; values to the right are forecasts. Wind observation and forecast data provided by NOAA's National Weather Service (NWS).



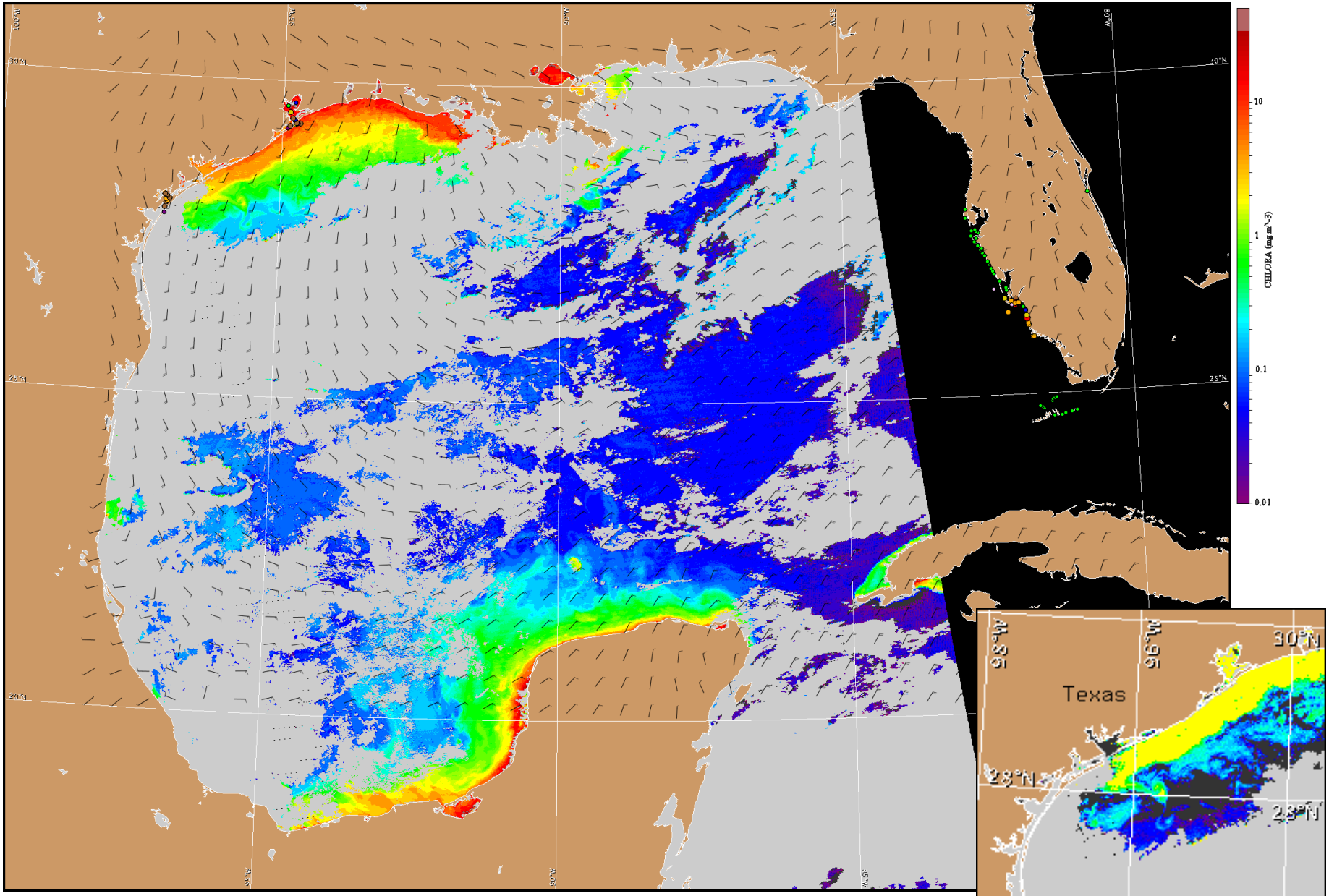


Wind Analysis

Galveston/Freeport: Northeast winds (10-15 kn, 5-8 m/s) today becoming east in the afternoon. South to southwest winds (5-15 kn, 3-8 m/s) tonight through Wednesday.

Port Aransas: Northeast winds (10-15 kn) today becoming southeast (5-10 kn, 3-5 m/s) in the afternoon. South winds (10-15 kn) tonight through Wednesday.

South Padre: Northeast winds (10 kn, 5 m/s) today becoming southeast in the afternoon. South winds (10-20 kn, 5-10 m/s) tonight through Wednesday.



Satellite chlorophyll image and forecast winds for January 4, 2012 12Z with cell concentration sampling data from December 24 to January 3 shown as red (high), orange (medium), yellow (low b), brown (low a), blue(very low b), purple (very low a), pink (present), and green (not present). For a list of cell count data providers and a key to the cell concentration categories, please see the HAB-OFS bulletin guide: http://tidesandcurrents.noaa.gov/hab/habfs_bulletin_guide.pdf

Verified and suspected HAB areas shown in red. Other areas of high chlorophyll concentration shown in yellow (see p. 1 analysis for interpretation).